THE LOGGER'S BARK

Radio Club of Tacoma, Inc.

P.O. Box 11188

Tacoma, WA 98411

APRIL 2006 EVENTS

Club Meetings: Wednesdays April 12th and 26th at the library Administration building at 7:30 pm, 112th & Waller road. Everyone is invited to attend.

Board Meeting, Wednesday April 5th 7:30 p.m. Clubhouse - All members welcome

License Testing - Tuesday April 11, 7:00PM at the RCT clubhouse.

BARK deadline Sunday April 23rd 2006- PLEASE get articles, columns, etc. in by that time!

- Support OUR club - Attend meetings, volunteer, Elmer.
- Check in to the 2-meter Net every Tuesday night at 7:30, on 147.28. Hear additional information on programs and other events.
- Check in on the 10 Meter Net every Sunday evening, 8 PM, on 28.375 MHz USB

RADIO CLUB OF TACOMA OFFICERS -- 2006

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CLUB MEETINGS: 7:30 PM 2nd & 4th Wednesdays of each month at the Pierce County Library Administration Building, 3005 - 112th Street East, Tacoma, WA

RADIO CLUB OF TACOMA REPEATERS ARE ON THE FOLLOWING FREQUENCIES:

147.28 / .88 MHz (PL 103.5)	144.97 - Packet	440.625 / 445.625 (PL 103.5)
147.38 / .98 MHz (PL 103.5)		

The R.C.T. Clubhouse is located at 1249 South Washington Street, Tacoma, Washington. Mailing address for all Club business: Post Office Box 11188, Tacoma WA 98411 253-759-2040

Regular Membership Fees for FULL Members, except students, Family Members and Senior Citizens is $30.00 per calendar year. 1st 2 Family Members of the same household will pay $15.00 per calendar year. Full time students, up to and including seniors in college, ½ the fee for Full Membership ($15.00). Membership fee for Senior Citizens (65 and over) is $25.00 per calendar year. Lifetime membership: 20-times the appropriate annual fee.

E-mail all articles & advertising to thebark@comcast.net, or to :Gary McAdams 11405 88th AVE CT SW Lakewood, WA 98498-4109 Commercial Advertising per issue: $60.00 full page, $30 per one-half page, $15.00 per quarter page, Business Cards $5.00. Advertising moneys help offset the costs of publication and mailing. Swap and Wanted Column articles are free to R.C.T. members. *The Logger's Bark* does not verify or guarantee statements in the Swap or Wanted columns. Permission is granted to use any or all portions of articles published in *The Logger's Bark* if credit line is included in the report.

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RADIO CLUB OF TACOMA

April 2006

Volume 2 Issue 4

The Logger's Bark

RADIO CLUB of TACOMA

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Special points of interest:

- Elmer board page 4
- March Calendar page 5
- Shack of the month! Check out Albert K7PUC on page 18!
- Birthday list on page 19.
- Project of the month beginning on page 20.

From The Prez

Well, the Mike and Key ham fest has come and gone. I hope you had a chance to attend.

It was fun and informative for all. We had our usual information table on the second floor, and were able to show our club to many people. I saw a lot of friends that I only see at the fest. I always look forward to it for that reason.

I very seldom find anything to spend my money on. Though a lot of hams find plenty to buy. Some spend 4 or 5 hundred bucks. Not me. But I still have fun. I spent some of my time at the club table to help show our club. We had a prize drawing for leaving your name and address in a box. (Non club members only). We gave away a pair of crank up flashlights. Pretty handy to have, as they don't need any batteries. Batteries always seem to fail when you need them most.

Speaking of ham fests, we have our own flea market coming up in August. If you have any surplus equipment you would like to sell, you can get a table and do just that. See Frank (AC7JY) for table reservations. We are having it at Bethel Jr. High again this year. That location has worked out very well in the past. Not to mention everyone already knows where it is. That makes it easy for all. You don't have to sell your stuff to come. You can come and buy more stuff, or just come and look around. We will need lots of help getting all the tables set up and getting everyone's stuff to them. If you can help out please let Frank know.

If you are not thinking that far ahead, we have field day coming up the last weekend of June. Bob / KE7DGQ has volunteered to chair the committee this year. He has been promised support from last years committee heads, and we should be ready in plenty of time. If you are interested in running a station, Bob will have a sign-up sheet at our club meetings. He is usually at the club house on Saturdays if you are unable to catch him at a meeting. We will also need lots of help putting up antennas, and we will need shelters. If you have a trailer or motor home you can let a station use, please let Bob know. The sooner the better. Hope we will see you there. Have fun and lets not forget DK at the beach. It is Sunday June 11th. We need help with that too. 73 de kk7qs.

Get Plugged In

visit your club's website

www.w7dk.org

for the latest news and club activities

Elmer Board

Do you need help with some area in ham radio? Here is a place to start… First is the listing of areas of support, followed by a list of members' areas of interest.

1.Technical questions, Classes
2. Help with Code
3. License Examinations
4. Antenna and Station planning
5. Antenna and Tower erection
6. Buying new or used equipment
7. Equipment repair
8. Understanding and operating your equipment
9. DX and Contests
10. Club and ARRL activities
11. Using test equipment
12. IRLP

Name/Call Sign /Phone Number/ Help with topic

Alan, KB7SVU 253-840-4947: 4, 5, 10

Frank, N7UO 253-752-8520 : 2, 3

Angela, KC7EQ 253-589-4071: 2

Mick, KK7QS 253-891-6950 : 12

Gary WG7X 253-984-0868: 1,4,5,6,8,9,10,11

If you are willing to share your time and knowledge with "newbees" and others, let us know and get on the Elmer Board!

Schedule of Events

- Tuesdays April 4th, 11th, 18th & 25th Club Repeater net 147.280
- Board Meeting Wednesday April 5th @ 7:30 PM at RCT club house.
- General meetings on 2nd & 4th Wednesdays: that's the 12th & 26th.
- VE Testing at RCT Clubhouse Tuesday April 4th at 7:00 PM.
- Tax day is HERE!. Panic now !

APRIL 2006

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

EDITORS NOTES...

Hello Again Club Members!

Its that time of the month again! No, you know what I mean, when a Hams thoughts turn to antennas! Spring is in the air and aerials are on our minds!

What kind of big antenna projects are in the works for you this season? Here at radio WG7x we are considering finally getting a directive array back up, and moving the low band antenna into another tree that is much higher.

It would be great to publish pictures of your newest projects!

Or how about submitting an article like out Project of the month that Rich KR7W has submitted?

A great article by-the-way!

Well enough for now, my PC is running low on punctuation. Got to go to the store and buy a few more exclamation points!!!

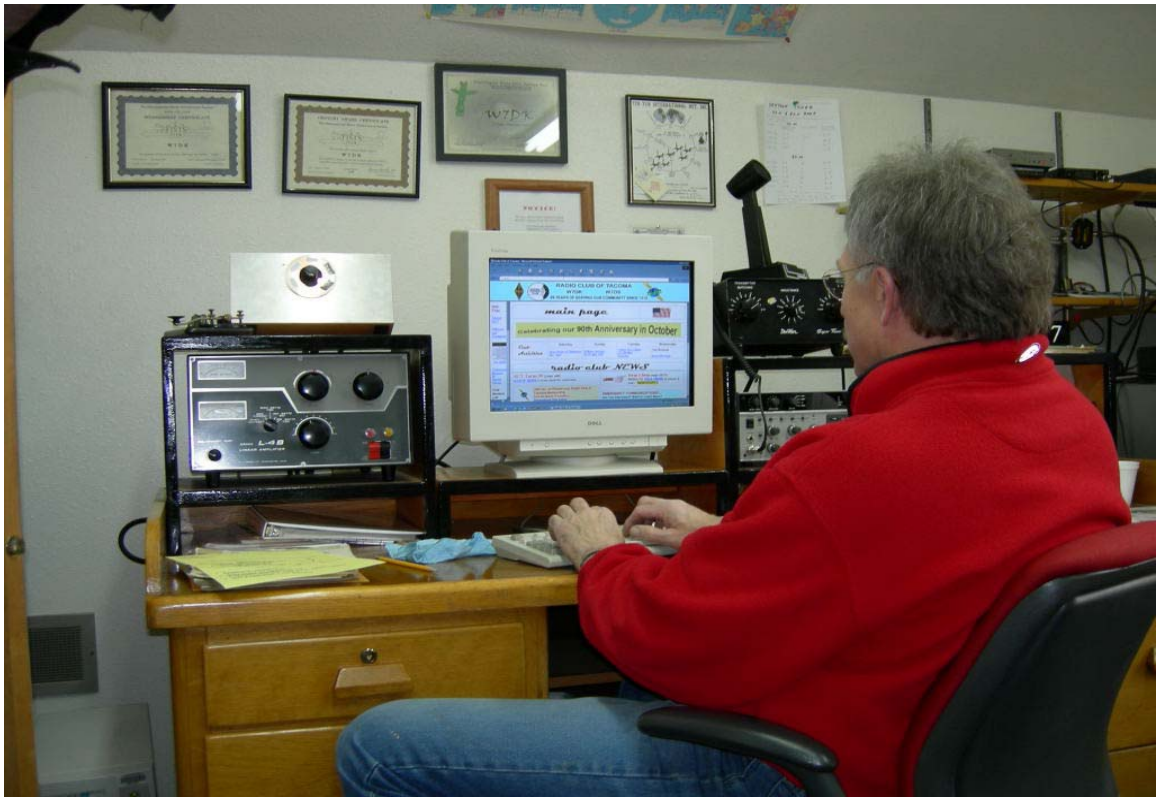
Until Next month, 73, Gary WG7X

WHAT DO YOU DO WITH A RUBBER DUCKY?

The "Ducky is on Spring Break this month and regrets that his sunburn makes it too painful to write.

Wish him well next time you see him, OK?

Or maybe it was a bit too much of the Saint Patrick's day celebrating?



Pictured here we see Rich KR7W, mighty web geek hard at work on the W7DK website.

VE TEAM REPORT

VE REPORT

By John AC7WW

The VE Testing Session on the evening of March 14th was time well spent by the five Volunteer Examiners that were in attendance. There were four candidates at the Radio Club of Tacoma Clubhouse.

We had a candidate with an administrative change on her license.

Another amateur operator from Gig Harbor with a paper upgrade to General Class, who it turned out, was in the Tacoma Power Squadron with one of the VEs, Don K7QLC, 30 years ago.

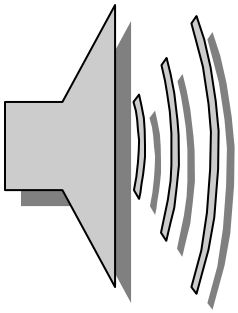
A candidate from Puyallup renewed his interest in Amateur Radio by passing his Technician exam January 10th. He passed element one and three to become a General Class at this session.

Randy, AD7FF, brought in a blind candidate from Sumner. He did very well on the Technician Examination, which we had to read to him and record his answers.

Thanks to the VE's that attended this session.

Mini-Swap Meet at the Clubhouse

Last Saturday of each month Mini Swap Meet at the Clubhouse … 10 a.m. to 2 p.m….There will be food (hot dogs, etc.) …Bring in your items you want to swap or sell or stop by to see what others bring.



Check in to the Tuesday evening Net at 7:30p.m. on 147.28 (the W7DK repeater) for the latest news and announcements from the club!

10 meter Net Sunday evening 8 p.m. On 28.375

CW net meets on Sunday evening 7 p.m. on 28.150

2-Meter SSB Net every Tuesday after FM net, 144.275

FAILURE TO RESPOND TO FCC COULD LEAD TO ENFORCEMENT ACTION

The FCC has held up the license renewal of a New Jersey Novice ticket holder for failing to respond to a Commission field office Citation and a Warning Notice, both dating back several years. FCC Special Counsel in the Enforcement Bureau Riley Hollingsworth told Ronald A. Mondgock, KA3OMZ, of Burlington, that if he did not submit a timely reply to his February 6,2006, letter, the Commission would dismiss his renewal application and issue a Notice of Apparent Liability for Monetary Forfeiture.

In February 2002, Hollingsworth wrote Mondgock regarding allegations he'd transmitted in the 75-meter phone band, which is unavailable to Novice class licensees. In July 2004, the FCC's Philadelphia Field Office cited Mondgock for allegedly failing to identify, making transmissions involving obscenity and indecency and operating on a frequency not authorized under his license.

On February 7, Hollingsworth sent a Warning Notice to Frank J. Fatigate,KB2YDO, of Hopewell Junction, New York, for allegedly failing to reply to a complaint the FCC forwarded to him nearly a year earlier. The FCC cited US Postal Service records indicating that Fatigate, a Technician licensee, refused delivery of the Commission correspondence. Subsequent attempts to reach Fatigate yielded no response. Noting that Fatigate had apparently changed his address, the FCC gave him additional time to reply or face a possible fine of up to $4000.

Hollingsworth said this week that he has yet to hear from either Mondgock or Fatigate.

In another enforcement matter, the FCC wrote Technician licensee Brandon M. Duke, KC0UWS (ex-KC0TKB), of Longmont, Colorado, January 9 advising him of a complaint alleging "deliberate interference and other rule violations on repeaters." Duke replied, pledging to change his ways.

In a January 26 e-mail, an apologetic Duke said he'd destroyed an audio CD containing apparently objectionable material he'd been accused of airing. He also said he'd "refrain from jamming, interfering, kerchunking and using any repeaters."

Hollingsworth cautioned Duke that the FCC expected him to abide by requests to steer clear of certain repeaters or face license revocation, a fine or other sanctions. In his e-mail response, Duke said he would refrain from using Boulder Amateur Radio Club repeaters, per the club's written request.

On January 24, Tracy Simmons of the FCC's Wireless Telecommunications Bureau licensing operations in Gettysburg, Pennsylvania, advised Duke that because he was "involved in an enforcement action," the Commission had set aside its earlier grant of a new sequential call sign, KC0VRS. Duke told Hollingsworth that he'd also filed for a vanity call sign.

Hollingsworth cautioned Duke that no matter his call sign, he remains obligated to stay off the repeaters as requested.

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LOGBOOK OF THE WORLD NOW SUPPORTS WORKED ALL STATES AWARD

Users of the ARRL's Logbook of the World (LoTW) <http://www.arrl.org/lotw/>now may apply their LoTW credits to applications for the League's Worked All States (WAS) award. Once registered and logged in, users may set up a WAS account on the Logbook Awards page, configuring the account to automatically select QSLs to use or selecting them manually via the Your QSOs page.

LoTW is a repository of logbook records submitted by users from around the world. When both participants in a contact submit matching QSO records to LoTW, the result is an electronic "QSL" that can be used for award credit.

As part of this addition, administration and maintenance of all WAS awards is now performed using an LoTW module. US Amateur Radio licensees must be ARRL members to apply for the WAS award. In addition to WAS, LoTW supports the ARRL DX Century Club (DXCC) award.

Since its inauguration in September 2005, LoTW has more than 95 million QSO records on file, with nearly 5.15 million QSL records resulting. The system boasts just over 12,000 registered users, and there are more than 18,100 certificates--each representing a particular user call sign--on file.

HELLO" CAMPAIGN PROVIDES RALLYING POINT TO PROMOTE AMATEUR RADIO

The first components of the ARRL's "Hello" Amateur Radio public relations campaign now are available. "This campaign will give hams the tools they need to reach out in their communities to non-hams and influence their perception of Amateur Radio," says ARRL Media and Public Relations Manager Allen Pitts, W1AGP, who conceived the campaign and is its principal Headquarters contact. The "Hello" campaign is aimed at recasting Amateur Radio in the light of the 21st century and focusing on its universal appeal. At the same time, it will mark the 100th anniversary of what many historians consider the first voice radio broadcast in 1906 by Reginald Fessenden..

"For years, ARRL public information officers (PIOs) and others interested in promoting Amateur Radio have been looking for leadership and a rallying point from which we can join together in a major promotion for ham radio," Pitts said. This is it! Tools include a distinctive "Hello" Web site <http://www.hello-radio.org/> and radio and TV public service announcements.

Based on the word "Hello," which Pitts calls "possibly the most pleasant word in any language," the coordinated campaign will set "a positive, upbeat tone that highlights the international capabilities of Amateur Radio," he explained. The "Hello" Web site is designed for non-hams to learn a little bit about Amateur Radio and to arouse more interest. The site points prospective Amateur Radio licensees to groups that have indicated they will provide a warm welcome to newcomers. The national "Hello" campaign can bring curious people into contact with ham radio groups, but it will be up to local radio amateurs to make them truly welcome, Pitts maintains.

"The key to creating a new ham operator is to develop a relationship with a current ham operator," says Pitts. Behind the effort is "an army of dedicated, truly motivated PIOs and others who want to see ham radio flourish."

A series of 30-second radio public service announcements (PSAs) <http://www.arrl.org/pio/pr.html> has been developed for the "Hello" campaign. "You can help by downloading the PSAs from the ARRL Web site onto a CD and taking it to your own local radio station," Pitts suggests.

A broadcast-quality video for the "Hello" campaign will be available in April. Copies of the special four-page "Hello" brochure <http://www.arrl.org/pio/hello/Hello-Campaign-Brochure.pdf> are available from ARRL Headquarters for use during presentations to non-ham groups. (Full details on the "Hello" campaign plus a pull-out copy of the brochure are available in the April issue of QST.) The brochures are suitable for talks to schools, clubs, displays and other venues promoting Amateur Radio to the public. There is a space on the back page to add local club info.

"For 100 years, the magic of the human voice over radio has brought imaginations to life. It opened a whole new era of human communication," the brochure declares, urging, "It's your world. Get on the radio and say "Hello."

To obtain copies, e-mail the "Hello" campaign <hello@arrl.org>. Donations are welcome (make checks out to "ARRL") to help cover return postage to ARRL, Public Relations, 225 Main St, Newington, CT 06111.

"Hello" logo bumper stickers will be on sale through the ARRL on-line catalog <http://www.arrl.org/catalog/?item=9731>. Buttons for the "Hello" campaign will be available at Dayton Hamvention and at other major Amateur Radio events. Banners for the "Hello" campaign will be flying at Dayton Hamvention and at the National Association of Broadcasters convention in April. After that, they will be made available for use at major events in 2006.

"ARRL President Joel Harrison, W5ZN, was correct in stating that the Main Street of today is not the same as the Main Street of yesteryear," Pitts says. "To reach out today, the very first requirement is that Amateur Radio operators be perceived as friendly and trustworthy. That's a true public relations goal and the primary focus of the campaign."

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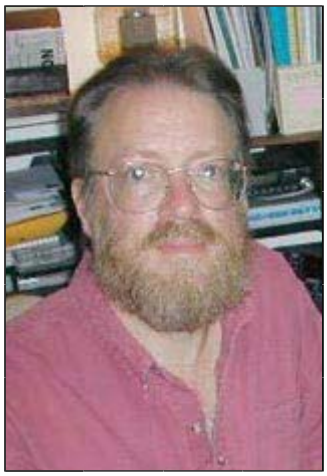
CONVERSATIONS FROM THE CONTESTORS RATE SHEET, BY WARD, N0AX



Something You Know

In the course of discussions about DXing and QSLing, it occurred to me that the problem of DX QSO authentication has many parallels in the field of contest log checking.

Log checking is getting better and better, able to speedily accomplish electronically what took W1WY, W1YL, and others months of rooting through piles of paper logs. Along with identifying the miscreants of radiosport - the callbook padders, packet poachers, and rubber clockers - a wealth of valuable information is also generated for honest competitors. Your log checking report is a veritable phone book of pointers to areas in which you can improve.

The log-checking process is one of verification. Verification consists of comparing "something you know" (QSO time-date-band-mode) to what someone else knows. Verification has to be performed "blind" to both submitters and neither may compare information outside the contest before submitting a log.

Log checking is really very good, but it is facing a new challenge driven by technology and habits. The strongest challengers are the use of spotting assistance during the contest, log cleaning tools after the contest, and data bases both during and after the contest. Just by observing on-the-air behavior, it is clear that the use of new technology is an implied challenge to the definition of what it means to be a "better" operator as determined by log checking.

Eventually we must address the question "Should 99% of contesters receive penalties because of the 1% that are perceived to cheat?"

In fact, people do demonstrably cheat. Contests with strong log-checking programs have been validated as the consensus standard by the participation of contesters.

Nevertheless, let's not lose sight of the difference between participation for enjoyment and participation for competition. Participation for enjoyment is not so much concerned with verification. Participation for competition is entirely different and can only prosper in an environment of strong verification.

Striking a balance between enjoyment and competition is difficult. Strong verification without compensating incentives can discourage casual entrants, preventing them from becoming competitive entrants.

Weaker verification undermines the validation of competitive rankings. Improving the environment for one can damage the environment for the other.

Where we are really heading is to an entirely new paradigm of verification. Soon, all QSOs everywhere will be public instantly. When this happens, a new mechanism for verification will have to be devised. Will QSO exchanges need to be encrypted? Will a PIN need to be pre-registered with the contest sponsors? Will the competitors need a back-channel for verification (some kind of Internet gadget)?

If QSOs are public instantly, can verification also be made instant? There will have to be a "something you know" for any contesting program to have meaning. After all, that is what contests are all about - I achieved this and you did not. (an advanced form of "Naa-naa-na-naa-naa") For contest results to have meaning, there must be a verified personal achievement. Technology for playing and for verification must advance as peers, lest the enjoyment of the activity as a competitive sport be destroyed.

73, Ward N0AX

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APRIL CONTESTS

Kids Roundup	1400Z, Apr 1 to 2200Z, Apr 2
SP DX Contest	1500Z, Apr 1 to 1500Z, Apr 2
EA RTTY Contest	1600Z, Apr 1 to 1600Z, Apr 2
QCWA Spring QSO Party	1800Z, Apr 1 to 1800Z, Apr 2
Missouri QSO Party	1800Z, Apr 1 to 0500Z, Apr 2 and 1800Z-2400Z, Apr 2
RSGB RoPoCo 1	0700Z-0900Z, Apr 2
RSGB 80m Club Championship, CW	1900Z-2030Z, Apr 3
ARS Spartan Sprint	0100Z-0300Z, Apr 4
YLRL DX-YL to NA-YL Contest, CW	1400Z, Apr 4 to 0200Z, Apr 6
144 MHz Spring Sprint	1900 local - 2300 local, Apr 4
SARL 80m QSO Party	1700Z-2000Z, Apr 6
JIDX CW Contest	0700Z, Apr 8 to 1300Z, Apr 9
ARCI Spring QSO Party	1200Z, Apr 8 to 2400Z, Apr 9
EU Spring Sprint, CW	1600Z-1959Z, Apr 8
Georgia QSO Party	1800Z, Apr 8 to 0359Z, Apr 9 and 1400Z-2359Z, Apr 9
Yuri Gagarin International DX Contest	2100Z, Apr 8 to 2100Z, Apr 9
Montana QSO Party	2300Z, Apr 8 to 2300Z, Apr 9
UBA Spring Contest, SSB	0600Z-1000Z, Apr 9
SARL Hamnet 40m Simulated Emerg Contest	1200Z-1400Z, Apr 9
YLRL DX-YL to NA-YL Contest, SSB	1400Z, Apr 11 to 0200Z, Apr 13
222 MHz Spring Sprint	1900 local - 2300 local, Apr 12
RSGB 80m Club Championship, SSB	1900Z-2030Z, Apr 12
ARLHS Annual Spring Lites QSO Party	0001Z, Apr 15 to 2359Z, Apr 23
ES Open HF Championship	0500Z-0559Z, Apr 15 and 0600Z-0659Z, Apr 15 and 0700Z-0759Z, Apr 15 and 0800Z-0859Z, Apr 15
EU Spring Sprint, SSB	1600Z-1959Z, Apr 15
Michigan QSO Party	1600Z, Apr 15 to 0400Z, Apr 16
EA-QRP CW Contest	1700Z-2000Z, Apr 15 (20-10m) and 2000Z-2300Z, Apr 15 (80m) and 0700Z-1000Z, Apr 16 (40m) and 1000Z-1300Z, Apr 16 (20-10m)
Ontario QSO Party	1800Z, Apr 15 to 1800Z, Apr 16
YU DX Contest	2100Z, Apr 15 to 0500Z, Apr 16 and 0900Z-1700Z, Apr 16
Run for the Bacon QRP Contest	0100Z-0300Z, Apr 17
Low Power Spring Sprint	1400Z-2000Z, Apr 17
432 MHz Spring Sprint	1900 local - 2300 local, Apr 20
RSGB 80m Club Championship, Data	1900Z-2030Z, Apr 20
DX Colombia International Contest	0000Z, Apr 22 to 2359Z, Apr 23
SP DX RTTY Contest	1200Z, Apr 22 to 1200Z, Apr 23
Florida QSO Party	1600Z, Apr 22 to 0159Z, Apr 23 and 1200Z-2159Z, Apr 23
Helvetia Contest	1300Z, Apr 29 to 1259Z, Apr 30

Board Meeting Minutes, 1 March, 2006

The 1 March 2006 board meeting was held at the Radio Club of Tacoma club house. President Mick Pier-KK7QS called the meeting to order at 7:30 PM.

Officers and board members present:

President:	Mick Pier -- KK7QS,
Vice President:	Jill Palmer – K7JIL,
Secretary:	Larry Watson -- KD4VOM,
Treasurer:	Pat Wingerter-- KD7TRC,
Board Member:	Frank Palmer -- AC7JY,
Board Member	Gary McAdams -- W7GX
Board Member	Peter Baker – AD7EU

A sign in sheet with the names of members and guests is attached.

MINUTES OF PREVIOUS MEETINGS:

Minutes from the February 1st board meeting were approved as corrected.

SECRETARY'S REPORT: Larry Watson – KD4VOM

The Secretary reported the following correspondence:

A letter from the Washington State Department of Natural Resources notifying us that they have scheduled an inspection of our Crawford Mountain Repeater on 15 March 2006 at 8:30 am and that a representative capable of accessing the site and identifying the equipment must be there, and should be a radio technician. This letter was accompanied by the final copy of our lease (# 52-B69819

The Pierce County Property Tax statements for the Clubhouse and adjacent lots.

Duplicate notices from the Scottsdale Insurance Group (a subsidiary of Nationwide Insurance Company) notifying us that our insurance policy # CPS 0689196 has been placed with them.

The Qwest Telephone bill for 253-759-2040 (840B)

A letter from the Department of Health an Human Services alerting us to a telephone survey on childhood immunization.

And two membership renewals.

TREASURER'S REPORT: Pat Wingerter – KD7TRC

A copy of the Monthly financial statement is attached.

COMMITTEE REPORTS:

W7DK Flea market: Frank Palmer – AC7JY reported on progress of plans and publicity for the August Flea market at Bethel High. We have a table and display along with flyers for our table at the March 11th Mike and Key Ham fest, and are sending flyers to as many possible locations and organizations. Mike and Key will also receive a special version of our Bark which highlights several RCT activities. There was discussion of establishing a drawing and prize to solicit attendance and contact information. Forms, Flyers, and a Banner are prepared.

Membership: Jill Palmer -- K7JIL reported that membership renewals are around 161, and it is probably time to send a reminder letter to those who have not sent their renewals in yet.

There was also a discussion of the Membership fees statement in the Bylaws which, although correct, has been frequently misinterpreted by new and renewing members. After considerable discussion it was decided to consider adding language to the Standing rules clarifying the Bylaws Membership fees statements. Jill will prepare a motion to insert a membership clarification item for the Standing Rules which will be moved at the next board meeting for action.

Also discussed was the policy adopted by a previous Board action which offers newly licensed Hams Free who have completed our training course and VE testing sessions free membership. At a recent meeting we had elected to provide a welcome package to candidates who have successfully passed their testing elements at the testing session. The package to contain a welcome letter from the President, RCT and ARRL application forms, one hard copy of a recent BARK along with instructions on how to access the W7DK website and how to download the BARK from the website. John Clarke – AC7WW commented that Steve Morton – AD7AB already provides Club and ARRL membership applications to students going through the Technician Class program.

Some preferred continuing the free membership offer, using the same partial year rules established by the Bylaws, and others preferred terminating the free membership to new hams policy.

Following lengthy discussion, the action was for Jill to write up a proposed motion to add language to the Standing Rules laying out the procedure for offering free membership to new hams who have attended our classes and passed their FCC elements with our VE Team.

Planning Team Report: Larry Watson – KD4VOM and Al Burleson K7HW presented a report which included the delivery of the "Officers Handbook" and the first that we know of "Officers Orientation" PowerPoint presentation.

UNFINISHED BUSINESS:

None

NEW BUSINESS:

The Jim Kierkeit Memorial (DK @ the Beach): Larry Watson – KD4VOM & Bud – K7BUD. Larry alerted the Board to Bud's information on this and future years DK @ the Beach picnic. Bud explained that although he thoroughly enjoys the project, his current and future work schedule will not allow him to attend the event, let alone manage it. He pointed out the Point Defiance Owen's Beach shelter fees have gone from around $ 50 to over $ 200.00, and that the Park Service, claiming liability and lack of funding has welded shut the fireplaces that we depended upon for warmth. Bud remains willing to work with anyone who will take up the project. Bud also offered to try and secure our usual first Sunday in June reservation if the Board wished. The Board consensus was to go ahead and reserve the date as at least a placeholder. We can receive a refund if we cancel our reservation 60 days in advance. The discussion also included considering other possible sites as alternative locations. Mick – KK7QS will seek a new manager for this program at the next membership meeting.

VE Testing Bank Account: Pat Wingerter – KD7RTC proposed a motion that the Current bank account used to support the VE Team operations, which is currently in the personal account of John Clarke -- AC7WW be transferred to a new account under Radio Club of Tacoma auspices similar to the W7DK Flea market account.

Discussion: Al wondered why it was ever changed, since it used to be under the RCT financial arrangements. The consensus of the Board, considering that their appeared to be no logical reason for not moving the account, and several prudent reasons for making the change, was to make the move. John – AC7WW pointed out the ARRL rules for managing the VE account, and Larry – KD4VOM recommended that those rules be documented so that future officers were aware of the restrictions attendant to the VE account.

The Motion by Pat – KD7RCT to: Move the current VE team bank account into the RTC Financial Management system as a separate Bank Account dedicated for the use of the VE team. The Board voted unanimously to make the change. The Motion carried

Action: John Clarke – AC7WW and Pat Wingerter – KD7RTC take action to make close the personal VE account and open a separate RCT account for VE use only.

The ARRL Criteria for management of the VE account are attached to the original minutes.

Discussion Topics:

Field Day: Peter Baker – AD7EU Suggested that since we need to get started on Field Day that the Board itself take on the management of Field Day. Most of the discussion failed to support this approach, pointing out that there was probably a lot more work and effort required than just setting up the station teams, generator power and distribution.

The meeting was adjourned at 9:15 pm

General Meeting MINUTES
8 March 2006

The 8 March 2006 Monthly Membership meeting was held at the Pierce County Library Administration Building. . President Mick Pier-KK7QS called the meeting to order at 7:30 PM.

Officers and board members present:

President:	Mick Pier -- KK7QS
Vice President:	Jill Palmer – K7JIL
Secretary:	Larry Watson --KD4VOM
Treasurer:	Pat Wingerter --KD7TRC
Board Member:	Frank Palmer--AC7JY
Board Member	Peter Baker – AD7EU

A sign in sheet with the names of members and guests is attached.

PLEDGE OF ALLEGIANCE:

Was led by Mick Pier – KK7QS

INTRODUCTIONS:

Self introductions were completed

SECRETARY'S REPORT: Larry Watson –KD4VOM

Correspondence: Several Bank statements, and a QSL Card were received, and thank you's for the Radio Control program presenters were sent.

Minutes of the 1 March Board Meeting: The Secretary summarized the minutes of the 1 March Board meeting: Board decision to move the VE bank account under the Radio Club of Tacoma auspices; Report of upcoming Crawford Mountain Repeater scheduled inspection by the Department of Natural Resources; Frank Palmer's AC7JY report on plans for the August W7DK Flea market; the decision to expand the frequently confused wording in the Bylaws concerning new member membership fees and place the expanded language in the Standing rules; a Planning Team report, Officers Handbook completed

and The Officers Orientation Power Point presentation; Bud --K7BUD's inability to continue managing W7DK @ the Beach due to work conflicts along with a discussion of the increasing cost of the Owen's Beach shelter and the Parks welding shut the fireplaces. The Board elected to have Bud – K7BUD go ahead and make reservations in June, at least as a placeholder.

TREASURER'S REPORT: Pat Wingerter – KD7TRC

The Treasure's report was made available for review

COMMITTEE REPORTS:

Membership: Jill Palmer – K7JIL

Jill reported that the membership was around 165 and slowly growing. She commented that the membership database that Rick Rose has created is making both entry and reporting on membership much easier. We will be sending out a letter reminding those who have not yet renewed, that their dues are due. Jill also had a sample of the new laminated Life Membership card, which will have a photo as well.

DK @the Beach: Mick Pier reported on plans for our June picnic at Point Defiance Owen's Beach. Bud – K7BUD reported at the last board meeting that the park fees had gone up and that he cannot continue to manage the event. He will get us booked with the park management for June, depending on availability of dates.

W7DK Flea Market – Frank AC7JY reported on ongoing efforts to publicize our August Flea market at Bethel High. We have our usual table at this weekend's Mike and Key Ham fest in Puyallup. Several have signed up to staff the table but if you are coming, take a turn and relieve the folks at the table. We will have raffle drawing at the table as well.

Field Day: Mick pointed out that we are late getting started with Field Day planning. We need a manager for this event. Mick has several who have offered to help, and Nick Winter also offered to assist, but not to manage.

90th Anniversary Program: Peter Baker AD7EU provided an update on Anniversary planning. We are setting up a clubhouse potluck and inviting all the old timers, whether current members or not to come down and share their memories with us and help us identify the volumes of photos we have in the Library. Peter is specifically seeking folks who had been members during WWII to share their memories of that time period and Club operations.

Repeater Committee: Nick K7MO reported on a survey visit to the Crawford Mountain Repeater site that he and Rich Patrick KR7W recently made. They presented a slide show of photos of the site and equipment along with a two dimensional map showing the antenna orientation and terrain profile from Crawford Mountain to the Tacoma area.

PROGRAM: Nick Winter – K7MO

Tonight's program was a sort of an ARRL before and after. Nick and Rich presented two videos; one a narration of a set of photos from 1935, and a second more recent video of a Club's official visit to the ARRL.

Our next meeting Program will be a little history of the WRTC Games, described as the Olympics of contesting which originated in the Northwest by Danny -- K7SF, Ward Silver N0AX and Steve K7LXT. It will be held again this year in Brazil. The following meeting program will be presented by Ward Silver, N0AX and will cover the K7C Cure Atoll expedition.

UNFINISHED BUSINESS:

None

NEW BUSINESS:

None

ANNOUNCEMENTS:

Open House: Mick –KK7QS announced that since most would be attending the Mike and Key Ham fest this weekend, the Clubhouse will not be open on Saturday.

Topic: Name - Call

Discussion Topics:

Topic: Name - Call

Door Prizes:

Tonight's Sigma 2000 RF Bridge power meter was won by Gary -- KE7ETD, and a bag of connectors was picked up by Rich Manson – N7ANF

PINOCHLE & POTLUCK

See you at the clubhouse

Saturday April 1st 6:30 P.M.

For more info call: 759-4898

Jack, WA7ENB & Marilyn Moore

General Meeting MINUTES
22 March, 2006

The 22 March 2006 Monthly Membership meeting was held at the Pierce County Library Administration Building. . President Mick Pier-KK7QS called the meeting to order at 19:32 PM.

Officers and board members present:

President:	Mick Pier -- KK7QS
Vice President:	Jill Palmer – K7JIL
Secretary:	Larry Watson --KD4VOM
Board Member:	Frank Palmer--AC7JY
Board Member	Peter Baker – AD7EU

A sign in sheet with the names of members and guests is attached.

There were 40 in attendance

PLEDGE OF ALLEGIANCE:

Was led by Mick Pier

INTRODUCTIONS:

Following guest Clete Mccain of Arizona's introduction, member self introductions were completed.

ILLNESS OR SILENT KEY: Larry – KD4OM reported on several visits to Jerry W7BUN who continues to recover at the Regency Rehabilitation Center. Jerry is doing better, and welcomes visitors – late afternoon visits are more likely to find Jerry awake. We noted that during our coverage of the RCT table at the Mike and Key Ham fest last weekend, the most common question we fielded was "How's Jerry doing?".

Rich—N7ANF reported on Bob??? 's recent and planned eye operations (does someone have a better description of this?

SECRETARY'S REPORT: Larry Watson –KD4VOM

Correspondence:

The Secretary reviewed recent correspondence, including a solicitation of donations received from the Jefferson County Amateur Radio Club W5GAD (Chartered in 1956, and an ARRL Special Service Club) who lost everything in the Katrina Hurricane. They served in support of Katrina emergency operations in New Orleans until shut down due to safety considerations. All of their equipment and a 20 by 40 foot square building were lost. They are soliciting financial and equipment assistance in rebuilding their club and capabilities.

TREASURER'S REPORT: Pat Wingerter – KD7TRC

Not available

COMMITTEE REPORTS:

Membership: Jill Palmer – K7JIL reports that membership renewals are increasing (around 232 now) in part as a result of a reminder letter crafted and sent by Rick Rose to alert members who have not renewed.

DK@ the Beach: Mick -- KK7QS reminded us that although Bud Mitze – K7BUD has reserved the 14th of June at Owens Beach for our annual Picnic, he will be unable to manage the affair and we are looking for someone to manage the event.

Field Day: Mick – KK7QS announced that Bob Purdom KEDGQ has taken the helm of this years Field Day.

VE Testing: John Clarke – AC7WW reported on the 14 March VE testing session. Five volunteers administered examinations to 4 candidates. One was an upgrade to General, another Technician pasted elements one and three to join the General Class ranks, and Randy, AD7FF presented a blind candidate who did very will on the Technician Examination which was accomplished verbally.

Training: Bill Lucas –KB7IHB Announced for Steve Morton that the next Technician Training class will be conducted on April 8th and 9th. He has 8 or 9 already signed up but there is room for 20. Bill reminded us that the ARRL "Now you're talking" book will be replaced with a new edition by 1 July this year. He also reminded us that while we get training materials postage free, other orders require paying postage. There was a question about sales tax. We pay sales tax on books sold to students, but do not pass that charge on to them. Al Burleson –K7HW noted that the ARRL provides a very good deal on "Club Library Packages" which contain many of the basic ARRL documents at a very discounted rate, and they do not charge shipping for these "packages".

Repeater Report: Nick Winter K7MO reported on the recent Department of Natural Resources inspection of our Crawford Mountain Repeater installation and operations.

Rich –K7RW and Nick hosted the visit and came out fine, although they recommended connecting our ground to their recently installed halo ground system and put poly phaser lighting arrester on our system.

PROGRAM: Nick Winter – K7MO in his effort to demonstrate the wide array of Amateur Radio activities and interests, tonight presented a video program produced by Ward Silver NOAX which explained the history and nature of the World Radio Sport team Contesting which began here in Seattle the same year as the Goodwill Games, and is planned for Brazil this year.

The Next meeting will also feature Ward Silver -- N0AX live to reprise the K7C Cure Atoll DXpedition. Don't miss this…In May we will have Scott -- N7SS from the Pacific Northwest VHF Society , weak signal work on 2 meters, 440 etc….

NEW BUSINESS:

None

ANNOUNCEMENTS:

ARES EOC Exercise: Mark Yordy -- W7BBO sent an e-mail announcing a major multi agency Emergency Operations Center exercise to be held April 4, 5, and 6th. They are soliciting participants to serve in 2 to 3 person shifts of 07:00 to 13:00 and 13:00 to 19:00. This will be a large scale medical emergency scenario exercise.

Scout Jamboree: Mick KK7QS read an e-mail from Bruce Crow, Pacific Harbor Council, inviting the Club to set up a radio station during the 5, 6 and & May Scout Fest where nearly 3,000 young boys, aged 7 to 18 will be participating. Anyone interested in taking this one on contact Mick. A question was asked about availability of power for operating the station.

Open House: Rich Manson –N7ANF announced that personal commitments preclude his covering the Club Open House on Saturday 1 April. Someone is needed to open and close for that day.

Seafair/Daffodil Communications: E-Mail from Alan Cush, WV7R, a Seafair Marshall in charge of communications, who is requesting Daffodil Festival (all volunteer organization) Amateur Radio operators have helped, and need help now for supporting this Public Service Event. WV7R@rrl.net.

ARRL Hello Program: We were reminded that the ARRL has developed and promoting Amateur radio through a new program called Hello. The club can get support if it's Special Service Club report indicates "Mentor" in the club activities listing. The Secretary will check and make any changes needed to insure our Elmer program is listed.

Discussion Topics:

IRLP: Rich – N7ANF asked how a Gent from Australia brought up our repeater. Consensus was that a reflector was used…

Queen Mary QSO Card: CW Card, it's nice…

G5RV Antenna at the club down…

Clubhouse Flag Pole: – no flag: The wind blew the flag and top pulley down..

Door Prize won by:

Pit Bull Screwdriver Set: Reidar NS7SN

A couple of pictures from the Mike & Key Ham fest Held a couple of week-ends ago. As can be seen from the picture on the left, a big crowd attended. On the right, we see some of the W7DK crew with visitors. Looks like a good time for all… did you attend?

QSL Card of the Month Submitted by: Rich KR7W aka WW7LW

Thanks for the FYBO contact. I was running 2 watts with my DSWII-20 into an inverted vee with the vertex about 30 feet up. The local forest preserve provided many branches at the right height, and I'm getting pretty good with the slingshot and Zebco reel. This year, we actually had winter weather. The temperature was 28 degrees, and it was snowing (the picnic tables are not naturally white on top). The XYL brought me a cup of coffee, but it was lukewarm by the time I had my first sip. The hardest thing I had to do was to keep log because the paper was getting wet from the snow, and it was hard to write on. Once again, I met up with several FYBO 2005 and QRP friends. What a great idea this is! FYBO and LAITF are my favorite events. I only operated for 1-1/2 hours because that bare hand was getting cold. I was thinking of the note I'd read where someone had designed an insulated key-muff. I think I'll be looking into that for next year.

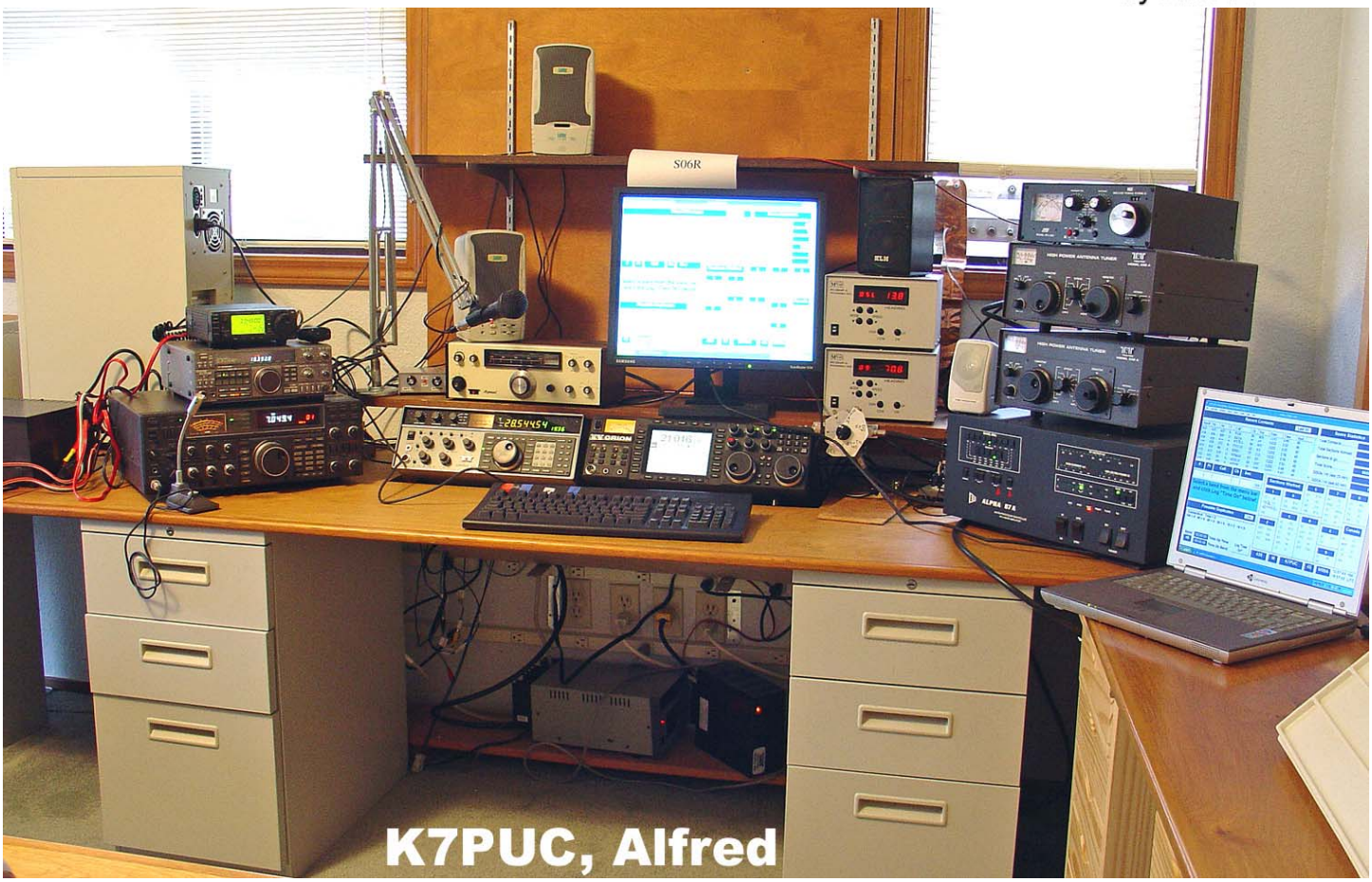
Vy 72/73 and I'll be lookin' for you next year.

ed - k9ew

South Wahkiakum
Contest Club
1602 N. 8th Street
Tacoma, WA
98403

Hamshack of the Month

by KR7W



Alfred K7PUC's goal is to operate as many radios at the same time in the ARRL's November Sweepstakes contest as possible. This photo shows the possibility of operating "SO6R"... which means "6 Radios, Single Operator".

Shown in the photo L to R is an old DOS PC that will run the multi-radio control software. Radios (in columns) are an Icom 706, Kenwood TS440SAT, Icom 761. Next column is Ten Tec Argonaut 505, Ten Tec Omni VI+. Under the PC monitor is a Ten Tec Orion. Under the black speaker are two Orion 2800 rotator controls. Next column has a MFJ 960 antenna tuner, two Ten Tec 238A antenna tuners, and the big box is an Alpha 87A Linear Amplifier. Not shown are two SteppIR control boxes and an additional antenna rotator.

The window on the right side of the photo is made of Plexiglas and has many feed through connectors to get the many coaxes and antenna control cables to the outside.

Alfred operated only with the little Ten Tec Argonaut QRP rig for 14 years. Before that he operated QRP with a Meissner signal shifter transmitter. The 40+ years of QRP ended in 1986 when he bought the Kenwood TS-440.

dit dah dit dah dit

April Birthday List

1	Nora Simmons	KC7JME
3	Nina Archer	N7BKK
3	Jeffrey Hanson	W7JFF
3	James Kinney	WT7Y
4	Barney Miller	N7TFB
5	Gary Bryan	KG7KU
6	Harry Hudson	K7LAZ
7	Mike Scott	KB7UXU
7	Bill Lucas	KB7IHB
7	Alan Ferguson	N7OMS
9	Harry Wong	N7DOE
11	Richard Gibbs	WB6RCP
11	Robert Teitzel	WA7ZZA
14	Hap Arnold Jr	KB7UXD
15	Joe Winter Sr	WZ7M
16	Jerry Hathaway	K7ETU
19	John Makebakken	N7FOW
19	Robert Churchward	W7RXS
20	Mick Pier	KK7QS
21	Pat Morgan	N7CAK
23	Bill Hare	AD7AC
23	Chandler Ellis	KC7EYZ
25	Robert Gates	K7IND
26	Vern Hase	KD7GTZ
27	Robert Edwards	N7HXX
28	Mary Ann Iseri	KD7HYX
30	Lupe Morris	KD7VYL

Project of the Month

by Rich KR7W

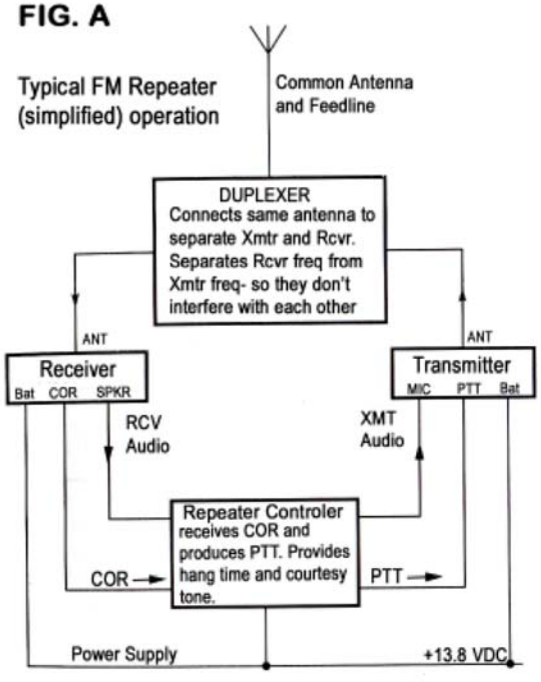
Build Your Own Repeater

This month's project is all about repeaters and how simple it is for the tinker-er / experimenter to build a fully functional repeater. The basic requirements for building a repeater are knowing how to solder small parts and how to shop for parts at Radio Shack. Before the "meat" of the project is revealed... I think it is important for uninitiated reader to know how a repeater works.

The following explanation will use the W7DK repeater as the example of "how the repeater works". Figure A shows the basics.

Remember in "New Technician" class most of us learned that the receiver operates on a different frequency than the transmitter. On two meter FM the difference in frequencies is .600 MHz, also stated as 600 KHz. This is called the "split" or "offset".

FIG. A



Let's start at the top of the **Figure A** diagram and work down. W7DK repeater uses a single antenna and feed line. Some folks might be wondering how the receive signal and transmit signal co-exist in the same antenna system at the same time. The secret of this operation is the DUPLEXER. The duplexer is basically a set of two narrow band filters with a common output (the antenna) and two separate inputs. The filters in the duplexer are very narrow in bandwidth. For instance, the transmitter outputs a frequency of 147.280 MHz into the duplexer. The transmit filter will allow this precise frequency to pass through (with very little loss), but will suppress all other frequencies on either side of the actual transmit frequency. This is done to prevent any spurious frequencies from being transmitted into the ether and into the receiver path of the duplexer.

On the receive side of the duplexer, the signal from the antenna system passes into the common input port and through the receive filters of the duplexer. This filter is precisely tuned to 147.880 MHz. Say I was transmitting 147.500 with my HT near the repeater. The band pass filter of the duplexer is tuned so sharp that very little of my HT's signal would pass through to the receiver. A well tuned duplexer will have a separation between transmit and receive frequencies of 50 to 60 dB and a pass through loss of about 3 dB. (as I like to say)... Let's do the math. 60 dB loss would equate to 1 millionth of the power, 50 dB would be 1/100000 of the power, and 3 dB is half of the power. It is important to keep any strong signal (even if not on the same frequency) out of the receiver to reduce the chance of overloading or blanking the receiver. If the adjacent strong signal blanks out the receiver... then it is not capable of receiving any lesser strength signals. The duplexer keeps the repeater's transmit signal out of the receiver to prevent blanking or overloading of the receiver.

Hopefully now... it is easier to see that very little of the transmitter's signal that goes into the antenna system will get into the receiver's input.

It is interesting to note that some repeaters (not very many) use two separate antennas instead of a duplexer. There are two ways to do this: 1. The transmitter and receiver are located miles apart and connected together via a **link** (phone line or a separate radio transmitter/receiver link). 2. The receive antenna is vertically separated from the transmit antenna. With this method... the antennas must be vertically orientated and be at least one wavelength apart and directly on top/ underneath of each other. Vertical separation will produce a 30 to 60 dB separation of signals.

In the repeater, the Receiver, Controller, and Transmitter work together as a unit. When the **receiver** receives a signal, the controller tells the transmitter to "key up" and transmit the information the receiver is picking up. The FM receiver must initiate this flow of events. The receiver produces two outputs to the controller: 1. The **audio signal** and 2. The **COR**. The audio is pretty simple... it is basically the audio signal that would come out of the speaker in any FM transceiver. The **COR** (carrier operated relay) signal is usually a GND on the lead when the receiver's squelch circuit opens up. At the W7DK repeater... two things must happen before COR operates: A.The receiver receives a good level RF signal... and B. The signal must contain the correct Tone, CTCSS Tone, or PL Tone. (remember setting the tone in your HT or Mobile rig to 103.5 Hz ?).

The controller does many things in the repeater. **Figure A** diagram only shows the basic operations. When the controller receives COR operation from the receiver...it passes the audio through to the transmitter's MIC input. It also initiates PTT (**P**ush **T**o **T**alk) to turn on the transmitter as well as providing the courtesy tone (beep-beep-beep) The controller also contains some features not shown on the diagram... such as: Starts a couple of timers for ID-ing and to limit PTT length. It sends out the W7DK/R in Morse code to legally ID itself. It is also listening for Touch Tones (commands) within the receiver audio for remote controlling, such as: IRLP access for general users, Disable receiver's need for PL tone for net controllers, shut down transmitter for the repeater control operator (repeater cops), and more. The controller is also connected to a phone line for further remote control capabilities if the repeater receiver fails.

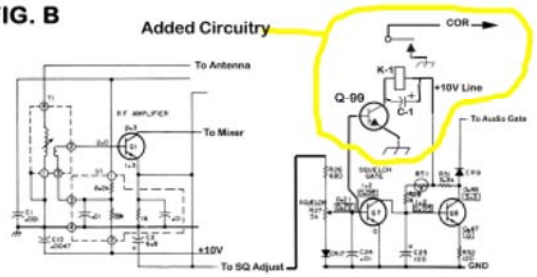
It is easy to see that the controller could be eliminated in a "bare bones basic" repeater. The controller could be replaced with a PTT relay that was operated by the COR lead. Of course, this method would not provide any IDer or remote control capabilities that are required by the FCC.

The transmitter is very basic... it pretty much operates like your mobile radio or HT. Operating PTT turns the RF carrier on and audio goes into the MIC input circuitry.

The W7DK repeater uses an old General Electric commercial mobile (from a police or fire vehicle) radio for the receiver and transmitter. The transmitter in the mobile unit is the exciter (low power output)... that feeds a GE base station power amplifier (like a linear amp... but not the same). The W7DK repeater transmits (encodes) a PL TONE of 103.5 Hz. You can set up your HT or mobile radio to the Tone SQ mode to keep unwanted transmissions from opening up your radio's squelch.

The rest of this article documents how I built my repeater. By the way... all of the electronic parts that I used are from Radio Shack. A complete parts list is at the end of the article.

FIG. B



I chose to use two separate transceivers for simplicity. One radio uses only the receiver... and the other uses only the transmitter.

The first thing I had to do was to create the **COR** lead. **Figure B** shows how I modified the receive radio's squelch circuit. When the receiver's RF

amplifier Q-1 receives a signal, a voltage is developed across the 1 K ohm resister between the emitter and GND (like an emitter follower circuit). This voltage is fed to the squelch gate and causes the Q-7 transistor to conduct which in turn opens the audio gate of the receiver. My addition of Q-99 parallels the base lead of Q-7. When voltage is present on the base lead Q-99… then it conducts… which operates relay K-1. One of the K-1 relay contacts creates the COR lead. So, whenever the receiver squelch opens up… then K-1 relay operates. I built this circuit on a small piece of perforated circuit board that is Velcro taped inside of the radio in a convenient place (see **Figure C**). Fortunately my radio had some screw terminals on the back. I disconnected an unused lead and soldered down my COR lead in its place. The sperker leads also appear on the same terminal strip. The radio's sperker leads will become the RCV audio that feeds the repeater's transmitter.

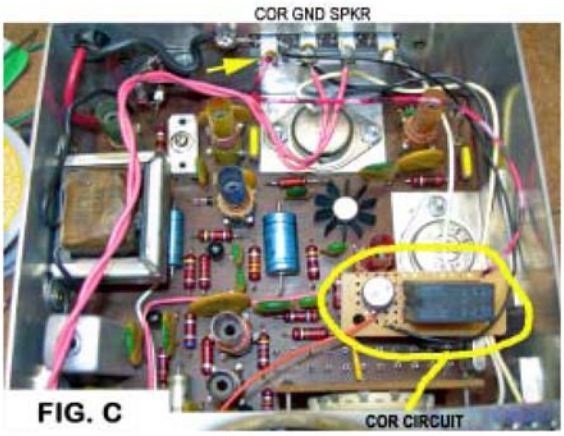


FIG. C

The receiver's sperker audio output is not the same impedance as the MIC input of the transmitter. Also, I needed to have some audio isolation between the radios to prevent ground loops which can cause unwanted hum in the MIC input. I built the circuit shown in **Figure D**. In the circuit, R-2 is a constant load for the 8 ohm sperker output. C-1 and R-2 work together to create a high pass audio filter that conditions the audio to be "crisp". Transformer T-1 isolates the audio leads electrically to reduce GND loop hum and transform the 8 ohm sperker output to the 100 ohm input impedance of the dynamic MIC

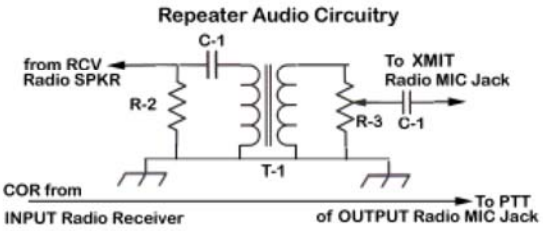


FIG. D

input of the transmitter. Adjustable resistor (pot) R-3 provides adjustable audio input to the MIC jack. R-3 and C-1 work together to provide the crisp audio to the MIC jack. COR from the receiver passes through this circuit board to become PTT to key the transmitter.

Figure E shows this circuit built on a piece of perforated circuit board and Velcro taped to the

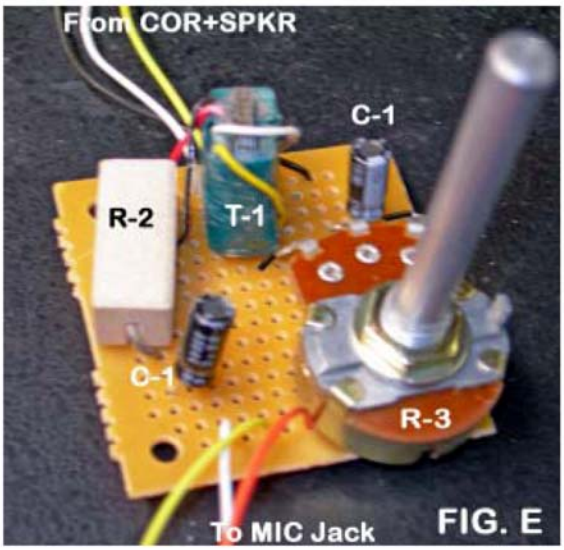


FIG. E

top of the XMT transceiver. I like Velcro tape because it is thick enough to insulate the soldered parts on the underside of the board from the radio case as well as ease of removing the board to work on it.

My repeater does not use a duplexer and a single antenna system like at W7DK described above. Instead, to keep it simple and inexpensive, I used stacked vertical antennas separated by a wavelength. See **Figure F**. My antenna array is

mounted on a 30 feet long piece of 2 inch PVC tubing that sets down on a iron pipe that is screwed into a flange that is bolted to the parapet of my garage. Fortunately, the PVC pipe fits snugly on the iron pipe and therefore no guying is needed. The two antennas are magnetic mount mobile units stuck to a metal surface screwed to the PVC pole and RTV adhered to keep the wind from blowing them off. I used RG-8X coax as the feed lines from the antennas to the radios. The feed lines are simply taped to the PVC pipe. I have not tested the RF separation (in dBs) between the antennas… but I know that my repeater's XMTR **does not** blank out the receiver and reduce its ability to receive weak signals.

Figure G shows the block diagram of my repeater. Note that there is no controller to announce my call sign or a courtesy tone. An option I considered as a controller is an inexpensive kit project called the "ID-O-Matic", by N0XAS, www.hamgadgets.com. The kit is $20. I have this kit and will use it as a Radio Direction Finding controller for the "fox" that I build that will be detailed in a future episode of POTM.

Figure H shows the entire repeater housed in a plastic storage box located in my garage. I keep the lid on to keep out the woodworking dust. Note that the 12 volt battery that is charged by a 13.8 volt wall wart. As I did not have an extra 13.8 volt power supply to use for this project… the battery and wall wart works just as well. The wall wart's output is able to continuously power the receiver and charge the battery. When the XMTR is on… the battery provides the extra 5 amps. Since the XMTR is on infrequently the wall wart is able to keep up with the charging.

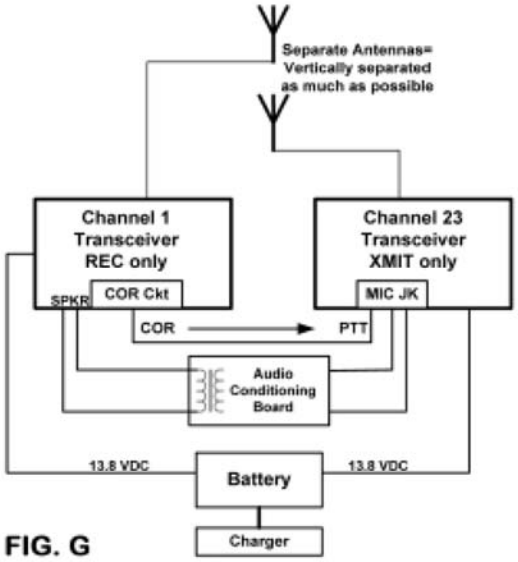


FIG. G

Parts Used – From Radio Shack

Q-99 2N2222A	RS 276-2009
C-1 100 mfd.	RS 272-1006
K-1 relay	RS 275-241
T-1 transformer	RS 273-1374
R-2 10 ohm	RS 271-132
R-3 1K pot	RS 271-280
Circuit Board	RS 276-148

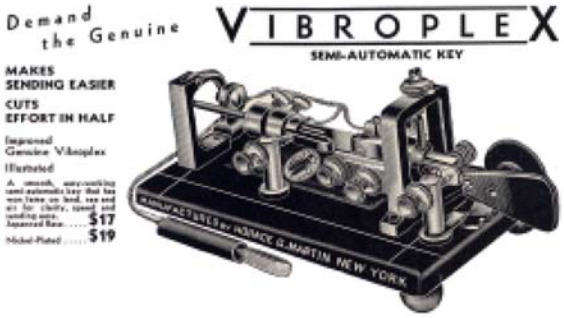
Caveats / Lessons Learned

This was a fun project to develop and build. Most people who have small electronic hand tools and who can solder should be able to duplicate this project quite easily. The layout of parts is not critical, even inside of the radio receiver. It seems to me that the worst thing that can happen is getting burned with the soldering iron (ask me, I'll show you the scar). The equipment that I used was free or nearly free that I picked up at the Mike and Key Swap Meet.

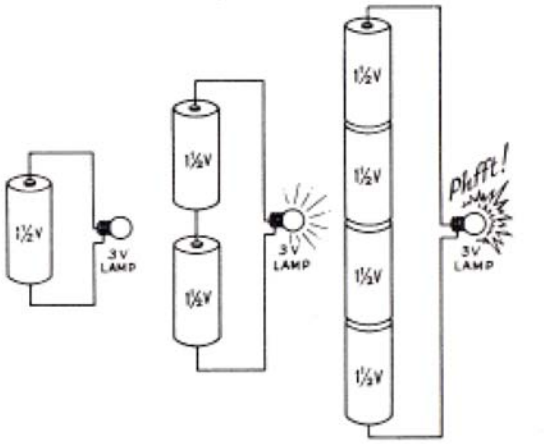
The following is something that I learned after I built and got my repeater working: The FCC's rules regarding CB Radio… state ***that it is illegal to use a CB transmitter via remote control (which a repeater is). Also, the FCC CB rules state that it is illegal to modify the CB transmitter in any way to make it non FCC type accepted***. I suppose that connecting audio output of one receiver into the MIC jack of the XMTR could constitute as modifying the radio from it's original FCC type accepted state. Anyway… BE WARE of the above rules that I mentioned… you just may loose your ham license by not following the rules. Now you know better as I do.

Hey Joe, the next ***Project of the Month*** will cover how to modify your CB Walkie-Talkie to transmit and receive on split frequencies. i.e. XMIT on Channel 1 and RCV on Channel 23. Stay tuned. 30 33 72 73.

The author, KR7W, Rich Patrick, first got started in Amateur Radio at the age of 12 in Pasco, WA. Taken in by his Elmers, the old guys who smoked cigars, he learned Morse code and passed his Novice exam in 1963 and became WN7BDJ and nine later became WA7BDJ. Fresh out of college in 1970 as a radio TV engineer with a first class FCC ticket, he went to work at the Bell System where he received a severe electrical shock from a 137 volts DC telephone power plant which required hospitalization for a couple of weeks. While recovering in the hospital he had the idea of building a 27 MHz repeater. KR7W is alive and well with his YL, Patricia KD7TRC in Tacoma, WA where things haven't been the same since the accident. KR7W can be reached at kr7w at arrl dot net and/or on 26.965 / 27.255 MHz.



Electricty Lesson No. 76



A 1½-volt battery doesn't have the potential to force enough current through a 3-volt lamp, but a 6-volt battery has more than enough! Notice that the voltages of the flashlight cells add when they are connected properly. One connection of a cell is called + or positive (the small electrodes when not marked) and the other is called — or negative. Voltages add when connected in series (+ to —).